

WHAT IS CLAIMED IS:

1. A method for associating an upstream channel to one of at least two downstream channels in a communication network, comprising:

receiving a bandwidth allocation message from a first downstream source or a second downstream source;

authenticating said bandwidth allocation message; and

sending said bandwidth allocation message to an upstream signal receiver if said bandwidth allocation message is authenticated, wherein said upstream signal receiver utilizes said bandwidth allocation message to anticipate the arrival of an upstream signal.

2. The method of claim 1, wherein said bandwidth allocation message is a MAP message.

3. The method of claim 1, wherein a master media access controller produces said first downstream source, and wherein a slave media access controller produces said second downstream source.

4. The method of claim 1, wherein at least one of said first downstream source and said second downstream source is a component of a cable modem termination system.

5. The method of claim 1, wherein a cable modem transmits said upstream signal.

6. The method of claim 1, further comprising the step of:
utilizing an interface bit to authenticate said bandwidth allocation message, said interface bit being set to accept or reject a request from said first downstream source or said second downstream source.

7. The method of claim 1, wherein said authenticating step further comprises the steps of:

- determining a source of said bandwidth allocation message;
- detecting, from said bandwidth allocation message, a channel identifier for the upstream channel; and
- utilizing said channel identifier to determine whether said first downstream source or said second downstream source has the authority to alter the configuration of the upstream channel.

8. The method of claim 1, further comprising the step of:
rejecting said bandwidth allocation message in response to said bandwidth allocation message not being authenticated.

9. A method for managing bandwidth allocation for an upstream channel in a communication network comprising:

- receiving a first bandwidth allocation message from a first downstream source, wherein said first bandwidth allocation message includes bandwidth allocation information for the upstream channel;

- receiving a second bandwidth allocation message from a second downstream source, wherein said second bandwidth allocation message includes bandwidth allocation information for the upstream channel;

- receiving authorization instructions to indicate whether said first downstream source or said second downstream source has authority to configure the upstream channel;

- transmitting said first bandwidth allocation message to an upstream signal receiver if said authorization instructions indicate that said first downstream source has authority to configure the upstream channel; and

- transmitting said second bandwidth allocation message to an upstream signal receiver if said authorization instructions that said second communication node has authority to configure the upstream channel.

10. The method of claim 9, further comprising:
sending either of said first bandwidth allocation message or
said second allocation message to a master interface to a remote
communications device.

11. The method of claim 9, further comprising the step of:
modifying said authorization instructions to adjust a role of a
source downstream source, said role including the authority to manage the
bandwidth allocation of the upstream channel.

12. The method of claim 11, further comprising the step of:
adjusting said role to balance the load requirements of one or
more applications being serviced by said first downstream source or said
second downstream source.

13. The method of claim 11, further comprising the step of:
implementing said adjusting step in real time.

14. A system for associating a plurality of upstream channels with
a plurality of downstream channels, all of said upstream channels and
downstream channels operating on a communications device, comprising:

a filter for receiving a bandwidth allocation message from a
requesting downstream source, wherein said filter processes authorization
instructions to authenticate said bandwidth allocation message; and

a parse processor for formatting said bandwidth allocation
message for a designated upstream channel in response to said configuration
signal being authenticated.

15. The system of claim 14, wherein said filter comprises:
a primary filter for receiving a bandwidth allocation message
produced by the communications device; and

a secondary filter for receiving a bandwidth allocation message from a second communications device, wherein said second communications device is linked to the first communications device over a slave interface.

16. The system of claim 14, further comprising:

a bandwidth allocation memory for selecting and/or storing said bandwidth allocation message from said parse processor.

17. The system of claim 16, wherein said bandwidth allocation

memory is operable to forward said bandwidth allocation message to an upstream signal receiver that is operable to utilize said bandwidth allocation message to anticipate the arrival of an upstream signal.

18. The system of claim 14, further comprising:

a plurality of bandwidth allocation memories, wherein each bandwidth allocation memory is associated with an upstream channel, wherein each bandwidth allocation memory selects and/or stores a bandwidth allocation message designated for its associated upstream channel.

19. The system of claim 14, wherein said authorization instructions

includes an interface bit capable of being set to accept or reject a request from a source of said bandwidth allocation message.

20. The system of claim 14, further comprising:

a software application for updating said authorization instructions to designate said downstream sources having authority to send requests to alter the bandwidth allocation of said upstream channels.

21. The system of claim 14, further comprising:

a MAP extract for extracting and/or receiving a bandwidth allocation message from the communications device, wherein said bandwidth allocation message is sent to said filter.

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